REMARKS

Upon entry of this amendment, claims 19-37 will be pending. Claims 1-6, 8-14, and 16-18 have been canceled. No claims have been amended. Claims 19-37 have been added. Claims 19, 32, and 35 are the independent claims.

No new matter has been added. Support for the claims may be found in the specification as originally filed, *inter alia*, at pages 8 through 13. Specifically, pages 8 and 9 describe the request and response processing, page 10 describes cache processing, page 11 describes an exemplary fail-over, page 12 describes server "keep alive" processing, and page 13 describes that the network access processing is transparent to the user and the client application.

Claims 1-6, 8-14, and 16 were rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by United States Patent No. 6,801,949 to Bruck *et al.* ("Bruck"). Claims 17 and 18 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over the teachings of Bruck in view of United States Patent No. 5,774,660 to Brendel *et al.* ("Brendel"). Claims 1-6, 8-14, and 16-18 have been canceled, thereby obviating the rejections.

New claims 19-37 have been added to more distinctly and clearly describe the claimed subject matter. The new claims distinguish over the cited references, because the Bruck and Brendel do not disclose a computer fail-over scheme where the data connections are over the Virtual Interface Architecture (VIA) protocol and where the fail-over processing occurs transparently at a network access module.

The present application discloses a client computer that may include a client application and a network access module. The client application may communicate with a cluster of servers. For simplicity, the cluster of servers may include a first server and a second server. The client computer may engage a VIA connection with the first server. The VIA connection may include VIA formatted packets. This first server may map to a server name. When this connection fails, the client computer may fail-over the connection to the second server. The second server may also map to the same server name. Since VIA supports machine-level identification, not abstract server names, additional processing is required to resolve the single server name to the first physical server, while the first physical server is available, and then to the second server, when the first server fails.

The network access module, of the claimed invention, may provide this fail-over processing transparent to the client application (*Specification* – p. 13, ll. 13-27). The network access module may detect that a connection has failed. The network access module may send a request to the cluster of servers. The second server may respond to the request, and the network access module may establish a connection with the second server. The client application may be unaffected by the fail-over, since the processing occurs at the network access module. Furthermore, since the network access module is part of the client computer, the solution does not require additional, intermediate, network elements to handle the fail-over. This context and approach is different from that presented in the cited references.

The cited references, Bruck and Brendel, do not disclose the claimed fail-over method, computer readable medium, and system. For example, Bruck and Brendel do not teach a client-based (*i.e.*, network access module) fail-over approach for VIA protocol communications. Rather, they disclose a conventional, network-based load balancing approach for TCP/IP protocol communications.

The Bruck and Brendel systems are network-based, not client-based. For example FIG. 21 of Bruck shows a network-based router and four servers that load balance traffic for a web server. FIG. 8 of Brendel shows a network-based load balancer that operates between the client and the server.

The Bruck and Brendel systems are designed for the TCP/IP protocol, not the VIA protocol. For example, FIG. 4 of Bruck shows TCP and IP layers within the network stack. Also, FIGS. 7, 12, 13, 14, and 17 of Brendel show the role of TCP/IP within the disclosed asymmetrical load balancer. Although Bruck states that "other network protocols may be accommodated," Bruck does not disclose any processing or connections with the VIA protocol.

Furthermore, because the fail-over processing, in Bruck, happens within the network, rather than at the client computer, *connection* failures are not transparent to the client application. In Bruck, a *server* failure results in a fail-over at the load balancer by re-assigning virtual IP address (Bruck, c. 6, l. 45 – c. 7, l. 2) . Because Bruck's load balancer is in the network, the load balancer cannot process or even detect connection failures that may occur at any point between the client and the server. Rather, the load balancer in Bruck, by nature of its location, can only process a fail-over at the servers themselves, and not for the

overall connection between the client and the server. A connection failure, in Bruck, would not be transparent to the client application. Rather, the client application would have to re-establish a new connection to the load balancer and ultimately to the servers. This is different than the fail-over processing operated by the network access module, of the claimed invention. Because the network access module operates at the client computer, the entire *connection* between the client computer and the server may be monitored for a failure. Thus, the fail-over processing for a connection failure is made transparent to the client application.

The Examiner cites the "virtual IP interface" described in Bruck as disclosing VIA, generally. However, a "virtual IP interface" on its face is an IP, Internet Protocol, interface, and cannot disclose VIA generally. As understood by those skilled in the art, VIA protocol is different protocol from Internet Protocol, in that VIA bypasses device operating systems. VIA is typically used in high speed applications such as server clusters. As a result, VIA communications generally have lower latency than their TCP/IP counterparts. Furthermore, the VIA protocol relies on VIA formatted packets, not IP formatted packets.

Accordingly, Applicant submits that the present application is in condition for allowance. Reconsideration of the application and an early Notice of Allowance are respectfully requested.

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